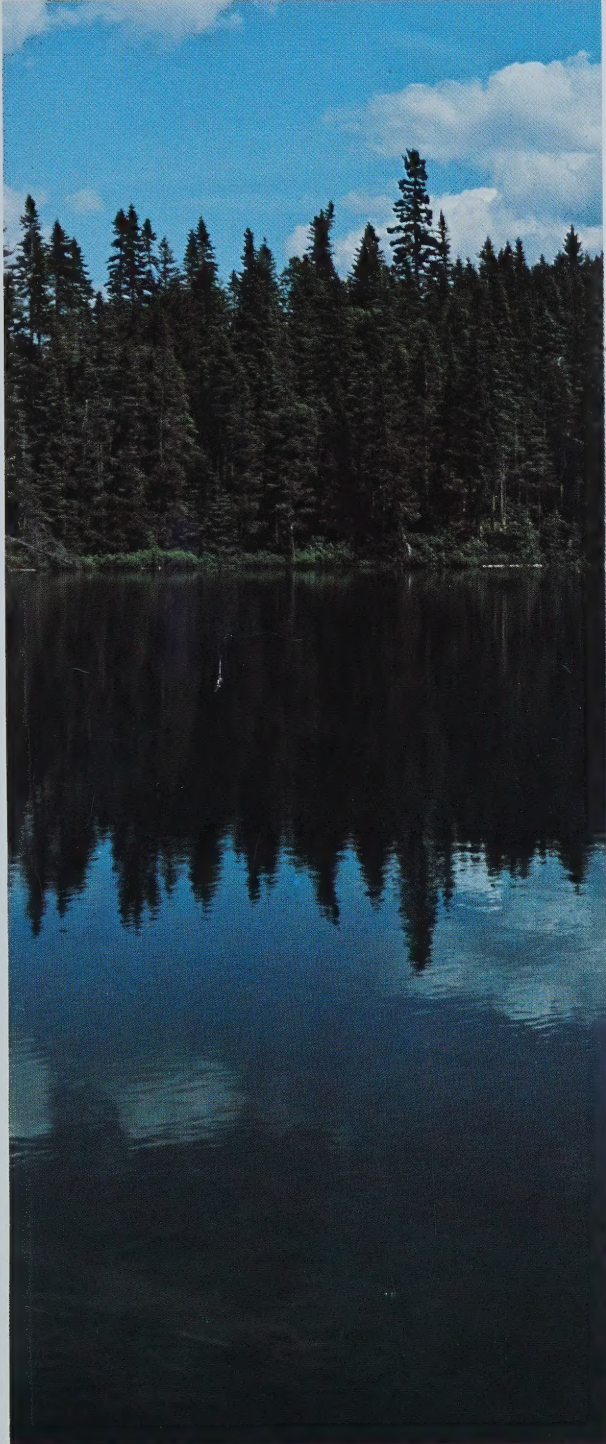


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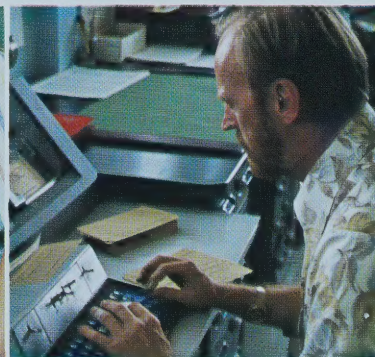
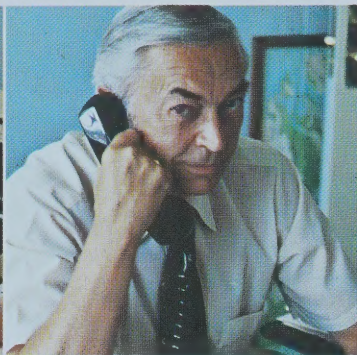
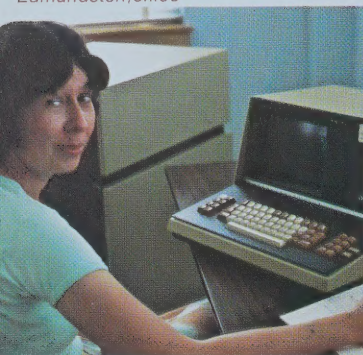
REFLECTIONS 1877-1977

REFLECTIONS 1877-1977

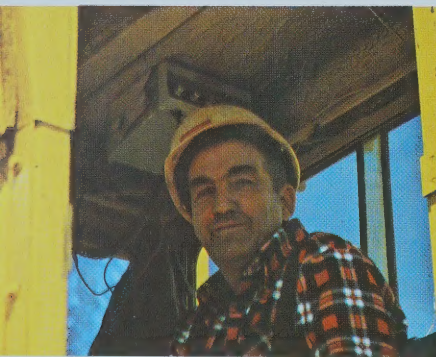




Edmundston office



research



Woodlands



DEDICATION

We dedicate this one-hundredth anniversary brochure to all Fraser people, past and present, who have contributed to the company's growth; beginning with Donald Fraser in 1877 and including the more than 3,000 people now working for Fraser.



REFLECTIONS

The Measure of a People and a Company Called Fraser 1877-1977

To reflect means to think carefully, to ponder. Reflecting is most appropriate for a company which has operated continuously for one hundred years, and particularly so as we prepare for our second hundred.

Reflections is the story of a family of Scottish pioneers who settled in New Brunswick in 1873 and founded a lumber business in 1877. It is a story that parallels the efforts of many others who left their homes in the Old World and who colonized New Brunswick soon after Confederation.

It is the story of a very human company; one that was so caught up in the excitement of what it was doing that it sometimes made mistakes. But, the important point is that, despite economic pressures and market downturns which sent some companies spinning into bankruptcy, the Company founded by Donald Fraser, not only survived, but has so much vitality today, that it is committing unprecedented millions of dollars to its future growth. Thus, in our one-hundredth year, we find great cause to celebrate and be proud.

We are proud that we had people like Donald Fraser and his sons, Donald, Jr. and Archibald, people like the Mathesons and Brebners, and their successors, who looked at the forests of New Brunswick and saw more than trees. They saw an ever renewable source of raw material.

As Donald Fraser's successors, we take this renewable resource and convert it into enough lumber each year to build more than 10,000 homes. From these same trees, we produce pulp which other manufacturers, including ourselves, convert into many different paper and boxboard products.

Today, Fraser is more than 3,000 people earning in excess of \$44 million a year in wages and salaries. We, the Company and employees, pay more than \$21 million a year in taxes. We harvest more than 400,000 cunits of wood a year from our 1.8 million acres of woodlands. We can produce and sell more than 80 million board feet of lumber a year from our two sawmills at Plaster Rock and Kedgwick. We can manufacture more than 400,000 tons of pulp a year in our two pulp mills at Edmundston and Atholville, as well as 33,000 tons of coated and specialty boxboard at Edmundston.

In our papermills at Madawaska, Maine, we manufacture and market more than 400,000 tons of fine papers, coated and specialty groundwood papers.

These are impressive figures but caring is what makes us unique.

We care about each other, about the products we make and about our customers. Very importantly, our customers care about us. They care about Fraser people and the products we make.

When we reflect on how far we have progressed in the past century, particularly the growth which we have achieved in the past decade, we gain some insight into the infinite possibilities that lie ahead. We do know that our Company has vitality. We do know that our people are excited by the new product potentials.

Our heritage lies in hard work, innovation and leadership. Could we do less than continue to improve on the past?

THE BEGINNING YEARS

THE BEGINNING YEARS



THE LEADERS

From a tiny backwoods sawmill, Fraser has developed into a large forest resource company. Such evolvments do not just happen automatically. They are the work of people and, most particularly, the work of the leaders, the men at the helm coping with changing economic weather and shifting currents in the marketplace.

It is therefore both appropriate and illuminating to tell who these men were and some of the things they did.

THE BEGINNING YEARS

Near the end of April in 1873, 587 Scottish colonists sailed from the Clyde on the S.S. Castalia, to found a new colony in the sparsely settled lands along the St. John River in New Brunswick. Among them were Donald Fraser, 31, his wife, Ann, 27, and their two sons, Donald, 6, and Archibald, 4. And they were there because of a fire in Sweden.

Earlier that year, Donald had dissolved his partnership with his brother in their third-generation family lumber business, intent on going to work for a lumber mill in Sweden. Before he could leave, word arrived that the Swedish mill had been destroyed by fire. Undaunted, Donald about-faced for the forests of North America where, he doubtless reasoned, the going might be tougher but the opportunities greater for a man who knew what to do with a stand of timber.

After a perilous 14 days at sea, the colonists landed at St. John. When they left Scotland, it had been springtime, but winter lingered in New Brunswick. After a five-day boat trip up the St. John River, the colonists were forced to travel on foot for seven snowy miles to their future farms, only to be met with the frustrating news that their stoves and furnishings had been delayed in transit.

As soon as they had built shelters for their families, the men found work laying rail for the Intercolonial Railroad along the St. John River. Their wages were ninety cents a day. A day was 12 hours.

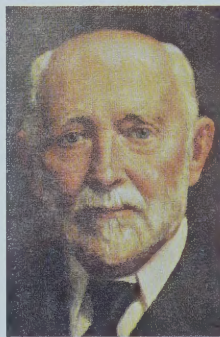
A year later, in 1874, Fraser started a saw pit mill on his farm lot in Upper Kincardine. It employed two men, one on top of the log and the other underneath. They produced 500 board feet of rough lumber in an exhausting twelve-hour day.

The year was 1877 and Donald Fraser, age 35 and settled in New Brunswick for just four years, was ready to make his move. Pulling together all his life savings, he purchased a small sawmill at River

de Chute. Now he was once again in the business he knew so well, the business in which he had participated with his brother back in Scotland, like their father and grandfather before them.

But what Donald could not have known was that he was laying the foundation of what by 1916 would become the largest lumber business in the Maritimes and one of the largest in all of Canada.

Donald Fraser was a leader. He was innovative and strongly people oriented. He pioneered employee participation in the business, encouraging his men to invest their wages in it, paying them 7% interest. The men drew only the wages needed for living expenses—the rest of their earnings built working capital for the young company and financial security for themselves.



Donald Fraser, Founder

From this springboard, Donald Fraser launched an audacious, yet well-planned program of acquisitions that would establish him as the acknowledged leader in the lumber business in the Maritimes.

Ann Fraser was very much part of the family business contributing enormous amounts of kindness, energy and counsel. Her energies seemed inexhaustible. She operated a boarding house for the men on the logging drives and on many winter days she left home on snowshoes to travel to some

distant point to lend a hand where it was needed; she was a pioneer in every sense of the word. Sadly, she did not live long enough to share in the success to which she had given so much. Ann Fraser died on August 5, 1896. She was 50 years old.

It was not long before Donald Fraser's sons got involved in the business. At 14, Archibald quit school to work on the river drive and, by the time they were 18 and 20, the Fraser sons were in charge of their own lumber camps; a tribute to their ability, considering the hardships involved and the rough character of lumbermen in those days.

From then on, they assumed increasing responsibilities until, in 1892, Donald Fraser proudly established the partnership of Donald Fraser and Sons.

In 1898, Donald Fraser needed \$250,000 to acquire 400 square miles of Crown timberland in Quebec along with a sawmill in Notre Dame du Lac (later moved to Cabano). He turned to the Royal Bank of Canada.

It was reported that the bank president told the directors, "We have followed Mr. Fraser for 20 years in his lumber activities and have found his judgment has always been correct. He tells me that this is the best buy he has ever had the opportunity to make. He needs \$125,000 to buy the property and another \$125,000 to get the mill started. I propose that the loan be granted." It was.

joined Fraser Companies in 1933 and contributed significantly to the Company's development.

Andrew Brebner joined the Frasers in 1900 as office manager at the Cabano mill. His sons, Andrew and Walter, and his grandson William are still working for Fraser.

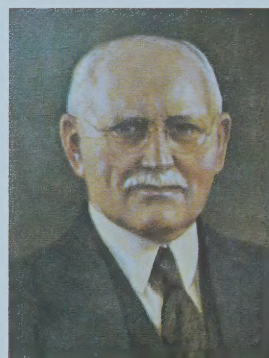
In November, 1905, Donald Fraser, his two sons, Archibald and Donald Jr., the two Mathesons, and Andrew Brebner, incorporated as the F&M Lumber Company (Fraser and Matheson) with Archibald as president; Andrew Brebner, vice president; William Matheson, secretary-treasurer; and Thomas Matheson as manager. All six were named members of the Board.

By 1916, when Donald Fraser died at the age of 74, the small lumber business he had begun at River de Chute had grown to nine large sawmills in New Brunswick and Quebec, employing several thousand people. It was the largest wood products business under one management in the Maritimes.

What kind of man was Donald Fraser? Here is how the *Fredericton Gleaner* spoke of him: "Whatever Donald Fraser did, he did well ... From a humble beginning he came to be recognized as New Brunswick's foremost captain of industry and his career was one which should provide an inspiration to young men of this province. His business dealings were ever characterized by the strictest honesty and integrity. He enjoyed the respect of all who knew



Donald Fraser, Jr.



Archibald Fraser

In the early years, two other families joined the Fraser business. They were the Mathesons and the Brebners, and they were to contribute significantly to the Company's growth.

Alec Matheson was a close friend of Donald Fraser, and his two sons, Thomas and William, grew up with the Fraser boys. In 1890, Thomas joined the Fraser business working for Archibald on the Odell River.

In 1894, William joined as accountant, advancing over the years to important management positions. His son Kenneth W. Matheson, a lawyer,

him. A man of generous impulses, he gave largely of his means for the promotion of religious and philanthropic purposes."

SECOND GENERATION

While Archibald Fraser had been president of the F&M Lumber Company for a full decade at the time of his father's death, it is easy to imagine that Donald, Sr. kept a sharp eye on operations and, from time to time, made his opinions known in vivid language. Now Archibald could—and indeed would have to—operate without the founder's advice.

In 1917, he incorporated all the Fraser interests under a single Dominion charter as Fraser Companies, Limited, with himself as president; Donald Fraser, vice president; William Matheson, secretary; and Thomas Matheson and Andrew Brebner as additional directors.

Under Archibald Fraser's leadership, Fraser continued to grow. In 1918, a \$4 million, 120 ton-a-day pulp mill, built at Edmundston, was hailed as the most modern in the industry. In 1925, a two-machine paper mill was constructed at Madawaska, Maine, and later expanded several times with additional machines. Sawmills were purchased and built, and extensive woodlands were acquired.

Then, as the Company was preparing the startup of a \$2.5 million, 45,000 ton-a-year pulp mill at Atholville on the Restigouche River, and the startup of a new sawmill below Baker Brook on the St. John River, the disastrous economic depression of 1929 struck. Prices slumped more than 50%, some to the levels of 1905.

In the six years, 1925 to 1930, Fraser had invested more than \$20 million in new plants and had incurred considerable indebtedness. Caught between financing for expansions and the Depression, Fraser was in trouble.

The Company went into receivership and the bank temporarily took over. A new Board of Directors including non-operating people was elected, but both Archibald and Donald Fraser were retained.

In 1932, Archibald Fraser, while hunting, died of a heart attack. He was eulogized by leaders in the Province as the "last great lumberman of the era."

DEPRESSION TO WORLD WAR II

Upon Archibald Fraser's death, he was succeeded by K. S. MacLachlan, general manager, while Donald Fraser remained vice president.

MacLachlan had a tough row to hoe. He was an "outsider," forced on Fraser by the bank. He had to pull the Company out of its financial difficulties. And, finally, he had to try to advance the Company's emphasis on pulp and paper products, a policy dictated by the decline in lumber markets that had begun in the mid-twenties.

Fortunately, K. S. MacLachlan was a practical man and was well equipped to cope with the challenge Fraser offered. He knew the paper business; at the time of his appointment he was managing director of Alliance Paper, Limited. And, despite the fact that he was an outsider, he quickly built confidence and goodwill among the executives and the men who worked for him.

It still was difficult, made more so by another financial reorganization in 1936 for the disposal of deferred bond interest, but the Company weathered the storms.

That same year, William Matheson died, followed four years later by the death of another pioneer, Donald Fraser, Jr. in 1940.

THE CRABTREE YEARS

At the outbreak of World War II, the Dominion government recruited K. S. MacLachlan as associate deputy minister of National Defense for Air. Aubrey Crabtree, who had been employed by Fraser Paper, Limited since 1930, and general manager since 1935, was appointed general manager of Fraser Companies, Limited and subsidiary companies, and, in 1941, became president. He was destined to lead the company for 21 years.

Crabtree was steeped in papermaking from birth. He was born in a paper mill town, Joliette, Quebec, in 1898. When his father, Edwin, established the Crabtree Mills, Aubrey worked there until he enlisted for overseas service in the first World War.

In 1930, Aubrey Crabtree was hired as general



William Matheson



Thomas Matheson



Andrew Brebner

superintendent. His value was quickly recognized and he was promoted to mill manager for Fraser Paper in 1933, and to general manager in 1935.

As president, Aubrey Crabtree continued the team concept around which Donald Fraser had built his company. The core from which this team developed were men such as L. M. Sherwood, vice president and treasurer and R. G. McFarlane, manager of logging, lumber and properties; and Kenneth W. Matheson, vice president.

This Fraser team, perhaps more than its predecessor, developed a unique longevity which gave an added dimension to its contribution to the Company's renewed growth.

HOVEY FURTHERS EXPANSION

When Aubrey Crabtree retired as president in



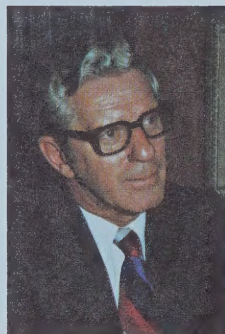
Aubrey Crabtree



Philip L. Hovey



J. H. "Pete" Heuer



C. R. "Kip" Recor

1962, Philip L. Hovey, executive vice president, Oxford Paper Company, was elected president and held the post until 1968. During these years the Company installed an off-machine blade coater to extend its marketing flexibility in coated groundwood papers, modernized and expanded the Newcastle pulp mill, and acquired interest in the Rothesay paper mill.

These were difficult economic years, particularly for the pulp and paper industry, and Fraser was not spared.

HEUER SPURS GROWTH

In 1968, when Philip Hovey resigned as president, the Board of Directors elected J. H. "Pete" Heuer, vice president, operations, and a director of Great Northern Paper Company, as Fraser's new president.

Pete Heuer introduced a different management style to Fraser. His motto, "There's no limit to the good a man can do if he doesn't care who gets the credit," reflected his management philosophy. He cast a new image as Fraser's president. He would visit the Company's mills, walk up to employees and say, "Hello, my name is Pete Heuer, Fraser's president. What's your name?"

Pete Heuer was a second generation papermaker; he had learned papermaking at Newton Falls Paper Mill, St. Regis Paper Company, and Great Northern. He had faced many challenges in his life; Fraser was perhaps the most difficult.

His experience had been largely in groundwood papers and, because Fraser papermakers had a well-deserved reputation for lightweight groundwood papers, he concluded that the Company's return to profitable operations and future growth logically should be in expansion of lightweight groundwood papers.

First he invested \$6 million to solve the ills of the Newcastle kraft pulp mill. He then sold it to Boise Cascade for more than \$41 million to obtain the needed capital to install a modern groundwood pulp mill at Edmundston and a large 306-inch wide, 300 ton-a-day groundwood paper machine at Madawaska. The new production came on stream on March 31, 1971 and contributed significantly to the profitability of the company from startup.

Pete Heuer did not live long enough to enjoy his achievements. On January 1, 1972, he suffered a heart attack and died. He was 54 years old.

RECOR LAUNCHES EDMUNDSTON MODERNIZATION

On January 6, 1972, C. R. "Kip" Recor, executive vice president, operations, was elected president and a director of Fraser.

Kip Recor had earned a succession of promotions leading to sales manager, Southern Region, with Beloit Corporation, a major world

manufacturer of paper machines. Under Recor's guidance, Fraser sales and profits climbed to record levels and a \$91 million modernization program was launched at the Edmundston pulp mill.

FRASER JOINS NORANDA

On April 9, 1974, Northwood Mills Ltd., a wholly-owned subsidiary of Noranda Mines Ltd., acquired a majority of Fraser's outstanding shares. Adam H. Zimmerman, executive vice president of Noranda, was elected chairman and chief executive officer of Fraser.

Noranda Mines Ltd. is one of Canada's largest corporations. Its interests are centered in natural resources, in mining, and in forest products. Almost from the beginning of its corporate life in 1922, Noranda has carried out an active program of vertical integration and diversification into finished products. The acquisition of Fraser, a company with its natural resources of more than 1.8 million acres of woodlands and its line of finished products such as lumber, boxboard and paper, broadens Noranda's position as a natural resource company with finished products capability.

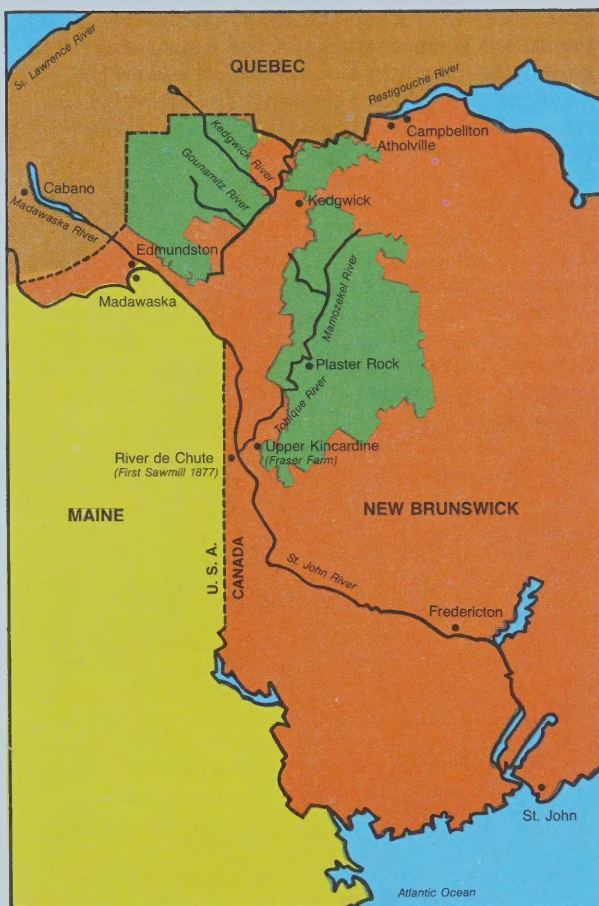
FISHER REVITALIZES GROWTH

John P. Fisher succeeded C. R. Recor as president of Fraser in 1976. He had been senior vice president, development, for Fraser since 1975. Prior to joining Fraser, John Fisher had served as marketing manager, pulp and paper, for Dominion Engineering Works, Ltd. Born in Knowlton, Quebec, he later earned a degree in mechanical engineering from McGill University, followed by one year of studies at the Royal Canadian Naval College.

Today, John Fisher continues the drive for modernization and growth. In 1976, he set the sawmill operations apart as the Wood Products Group and challenged it to expand its horizons beyond the existing lumber products. In 1977, he launched a \$5.5 million modernization at the Plaster Rock and Kedgwick sawmills.

Continuous improvement and growth plans are underway for the Atholville and Madawaska mills. The forward momentum of Fraser continues in all its operations.

FRASER OPERATIONS



John P. Fisher



Adam H. Zimmerman

FRASER WOOD PRODUCTS

Fraser traces its entry into the wood products business to 1877 when Donald Fraser bought a small sawmill at River de Chute. It was a time of exciting growth for the young Confederation and for the young wood products Company. The arrival of the colonists in Canada meant the building of new homes and new homes meant more lumber.

Within a year, Fraser's wood products business expanded with the purchase of a second sawmill in the nearby colony of Muniac. In this sawmill the Company installed the first of the new Dunbar machines, invented by Alec Dunbar, a close friend and fellow colonist of Donald Fraser. The Dunbar machine revolutionized the production of clapboard and shingles to such an extent that Fraser was now exporting its wood products to the United States and overseas.

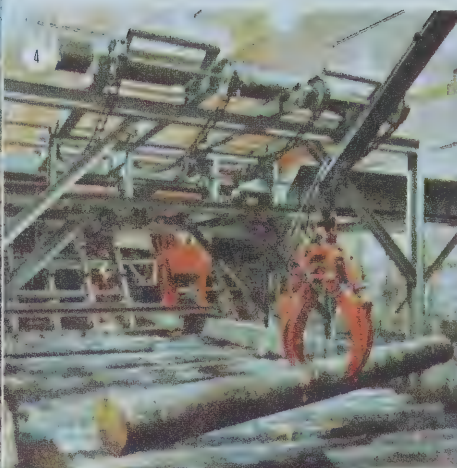
Fraser was off and running.

- 1894—Fraser designs and builds Aberdeen sawmill in Fredericton, the first in New Brunswick to generate its own electricity. 125 people are working in two shifts and manufacturing 15 million board feet per year of deals, clapboards, shingles, laths and more.
- 1898—Fraser acquires interest in 400 square miles of Crown timberland in Quebec and moves existing sawmill from Notre Dame du Lac to Cabano, expanding it and modernizing it in the process.
- 1904—To gain use of an additional water outlet from the Quebec tract, Fraser builds another sawmill at Baker Brook, 12 miles northwest of Edmundston.
- 1905—Fraser purchases timber limits on the St. Francis River and forms the F&M Lumber Company to work them. Later in the same year, the Aberdeen mill is wiped out by fire. No one is injured, but the loss amounts to \$100,000 in stock, buildings, and equipment.
- 1906—Fraser acquires the Tobique Manufacturing Company, whose financial problems the Company had been solving at the request of the Royal Bank of Canada. The name is changed to Fraser Lumber Company, Ltd.
- 1911—Fraser acquires the assets of James Murchie & Sons, Ltd. — sawmill and power sites at Edmundston — timber limits in New Brunswick and Quebec — freehold timberlands in Quebec. Operations go forward under a new name, Fraser Limited.
- 1912—Fraser purchases extensive timber holdings near Fredericton, including the Scott Lumber Company, Ltd. and the Oromocto Lumber Co., Ltd.
- 1915—A sawmill at Estcourt is developed to process logs cut on the St. Francis River and its tributaries. Fraser enters the Miramichi area,

purchasing 5,240 acres plus Crown land timber license areas and a sawmill at Nelson, from Timothy Lynch Company, Ltd.

In the years immediately following, the Company effected a few additional acquisitions but, from the mid-twenties onward, its lumber business was to decline.





1. Kiln-dried lumber.
2. The Plaster Rock sawmill can produce over 43 million board feet of lumber a year.
3. The Kedgwick sawmill's output is 40 million board feet of lumber a year.
4. Hot pond facilitates bark removal.
5. Ring debarker efficiently removes bark from logs.
6. Chipper-canter chips outside area of logs unsuitable for lumber and achieves high volume production of lumber from small diameter logs.
7. Single-band resaw converts small sized cants to lumber.



1. Aberdeen sawmill, built in 1894, was model mill in its time.
2. Cabano sawmill was cornerstone of Fraser growth for many years.
3. Plaster Rock crew in 1929.
4. Loading lumber for export in the 1920's.

FRASER WOOD PRODUCTS

1925—THE TIDE TURNS

By 1925, Fraser's wood products group had reached its zenith with a total annual capacity of 124 million board feet of lumber, 158 million squares of shingles a year, 200 million pieces of lath and 100,000 railroad ties from its 12 sawmills at Cabano, Estcourt, Notre Dame du Lac, Plaster Rock, Fredericton, Quisibis, Baker Brook, Magaguadavic, Edmundston, Summit, Nelson and Campbellton.

But during the next two decades, as the importance of wood products declined, Fraser shifted emphasis to the manufacturing of pulp and paper. By 1965, Fraser was operating only two sawmills — Plaster Rock and Cabano. In 1966, the Cabano sawmill, which had been in operation since 1899, was destroyed by fire.

In 1968, Fraser purchased the W. H. Miller sawmill at Kedgwick. After being partially destroyed by fire in 1969, the Kedgwick mill was rebuilt, launching a revitalization of the Fraser sawmills. In 1974, Fraser replaced the existing Plaster Rock mill with a new modern sawmill and chipping plant complete with drying kilns.

RECENT ADVANCES

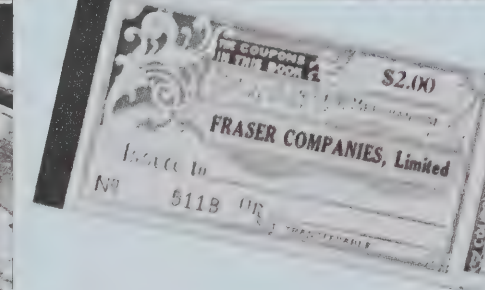
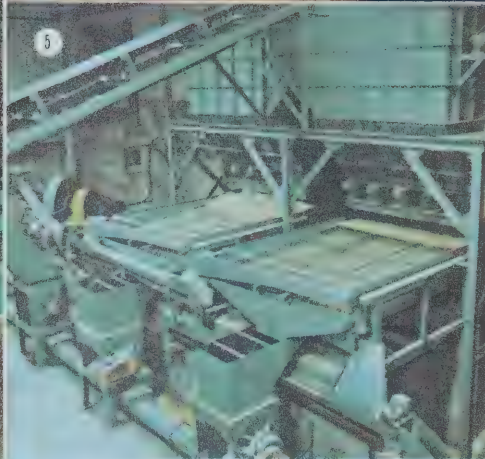
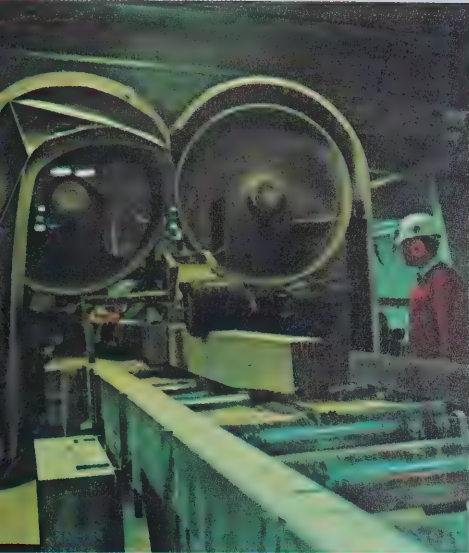
Fraser pioneered the use in Eastern Canada of sawmill residues — slabs and edgings — as a source of chips for its pulp mills. Until then, these residues were treated as wastes and were burned, a needless profligacy of a valuable resource. Today, by debarking ahead of the saws, Fraser recovers prime quality chips. By 1970, the Atholville pulp mill was being supplied 100% by sawmill chips, the Edmundston mill, 65%. The use of sawmill waste chips is significant; not only does it make the economies of the sawmill and the pulp mill more favorable, but it means more fibre from each tree harvested.

In addition to using chips from its two-sawmills, Fraser also purchases more than 100,000 cunits of chips a year from other local sawmills, further contributing to the economies of their operations and to conservation of woodlands.

Fraser wood products continues its rejuvenation. In 1976, the Company's sawmill operations were set apart as the Wood Products Group and strengthened and expanded in scope. Their challenge: to think beyond the expansion of existing lumber products and to search for more economical and efficient ways to use Fraser wood resources.

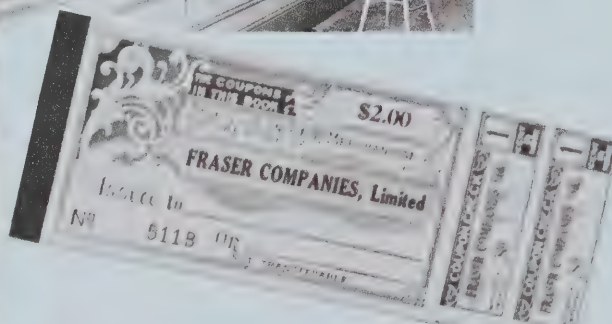
Today, Plaster Rock and Kedgwick sawmills can produce more than 80 million board feet a year — enough lumber to construct 10,000 average new homes. Main uses of the Company's lumber are for new residential construction, industrial purposes, home repairs and renovation.





1. Wrapping operation in planer mill.
2. Twin-band resaw converts larger cants into lumber.
3. Trimming station.
4. Green lumber is sorted by size and grade.
5. Sawmill chips are screened and shipped to pulp mills.
6. Kiln-dried lumber ready for shipment.
7. Green lumber is cured in drying kiln.

1. Aberdeen mill interior circa 1900.
2. Victoria mills.
3. Dunbar shingle machine pioneered by Fraser at the Cabano mill.
4. Company store at Cabano and money coupon book.



FRASER WOODLANDS

As the boatload of travel-weary Scottish colonists slowly made their way up the St. John River in that chilly May of 1873, one of them was surely gripped with excitement. To Donald Fraser, third-generation lumberman, those densely forest-clad slopes must have conjured up visions of the potential wealth they held in promise for a man with the energy and skill to harvest them.

Four years later, he acquired his first sawmill and, in the beginning, relied on leased woodlands for his raw materials. Soon, however, he was embarked on a program of acquisition so successful that, by 1950, the company he founded would own or control harvesting rights to more than 3,500,000 acres of prime woodlands—an area larger than the state of Connecticut and two and a half times the size of Prince Edward Island.

In more recent years, these holdings have been reduced. For example, when fire destroyed the Cabano sawmill in 1966, the Quebec government pressed Fraser to build a pulp and paperboard mill to enlarge utilization of its tracts. When Fraser concluded the market would not support the necessary investment, the Government expropriated its holdings. And in 1970, the Company relinquished 871,000 acres when it sold the Newcastle pulp mill to fund an expansion of groundwood pulp manufacturing at Edmundston and a new groundwood paper machine at Madawaska.

Today, Fraser's Woodlands Department manages 1,870,000 acres of northwestern New Brunswick forest, 40% owned and the remainder operated under a forest management license from the Province. Here are found some of the best growing conditions in eastern North America. The topography is gentle to rolling and close to 95% productive. Operating conditions are excellent throughout seven to nine months of the year.

Fraser sawmills and pulp mills require 700,000 cunits of wood a year. 400,000 cunits are harvested from these company limits and another 300,000 cunits are purchased from sawmills and local woodlot owners. By providing a market for these woodlot owners, Fraser encourages better forest management, which could ultimately double this supply of wood. And, to the sawmill owners, Fraser provides the sole market for chips in this area. Additionally, Fraser is the major supplier of hardwood, cedar sawlogs, and veneer logs to numerous small wood products operations.

HARVESTING

Over the years there have been tremendous advances in woodlands operations.

In the early days, loggers were farmers who harvested wood in the winter; worked on the river

drive in the spring; returned to their farms, planted their crops, and worked in the sawmill during the summer; harvested crops in the fall; and then returned to the woods. A man would enter the woods in December and not leave until the drive ended in June.

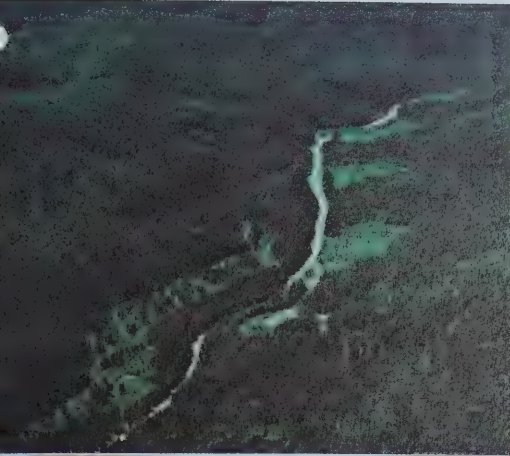
E. L. Howie, retired chief forester at Fraser, describes life in a logging camp in 1925. "A camp boss would take 25 to 30 men, some food in a wagon and go into the woods. The men would sleep under the wagon until the camp was built (in less than a week the roof would be up) and they would start cutting operations. For \$600, a camp boss could outfit himself with the provisions needed to cut 5,000 cords of pulpwood. Today, it costs more than \$500,000 to outfit a camp of 60 to 75 men harvesting 25,000 cords of wood.

"They slept in one long bunk called a longbed which was made by dividing the length of the camp into 4-ft. sections; each section held two men. The bed was a wooden platform about 18 inches above the camp floor; the men slept on balsam boughs, hay, or straw. In the forties, Fraser built its first camp with individual upper and lower bunks equipped with mattresses."

In the winter, horses skidded the harvested wood to sites along the frozen rivers. There the logs were unloaded by hand and piled for rolling into the rivers at Spring ice-out.

Today, harvesting machines shear the trees at ground level, then delimb and stack them in piles; grapple skidders transport them to the roadside. Harvesting of sawlogs and pulpwood in one operation is more efficient and economical.





1. Fraser manages more than 1.87 million acres of woodlands in New Brunswick, an area almost one third larger than Prince Edward Island or the State of Delaware.
2. Working in the comfort of an enclosed cab, heated in the winter, today's woods worker operates modern tree harvesters which shear the tree at ground level, pick it up and stack it in bundles.
3. Rubber-tired clam-skidder delivers trees to a delimbing machine.
4. Camp 69 provides accommodations to woods workers including housing, cafeteria style dining, recreational and complete maintenance facilities.
5. Hand-felling with power saws is still the mainstay of Fraser harvesting operations.



1. A logging drive crew pauses for lunch. Several lunches a day eased the rigors of the river drive.
2. Before the days of radio and television, woodsmen made their own entertainment.
3. In the old days, woodsmen harvested large logs such as these with two-bitted axes in 1907.
4. A log jam in 1907. Extricating the key log was a dangerous job.

FRASER WOODLANDS

Many Fraser loggers work in enclosed cabs, providing a safer, quieter and much more comfortable working environment. The cabs have radio communications, and are heated in the winter.

Camp facilities, too, have improved. Modern camps house ten men per unit, two men to a room and feature recreational centers. Cafeteria style dining facilities provide a varied diet with generous servings of fresh meats, vegetables and desserts.

But let no man tell you the logger lives a life of ease. It is still tough, demanding work, and probably always will be.

TRANSPORTING

Until recent years, water transportation was the accepted means of moving the logs to the mills. A typical drive in northern New Brunswick could last four to six weeks depending on water levels. When ice-out came and the spring freshets swirled along the rivers, the logs were rolled into the water.

On the smaller streams, the river drivers, equipped with heavy waders—hip-high rubber boots—would wade into water and urge the logs along. On the larger or wider rivers, the men would take to flat-bottom boats pointed at both ends (called flangers) and, with one or two boats on each side of the river, work downstream with long poles, pulling stranded logs off the banks and setting them afloat.

The river drive was the culmination of the loggers' winter work. It was difficult and dangerous. Log jams and log slides were a constant hazard. High water with vicious eddies could carry a man under within seconds. Sometimes, a drive would hang up permanently and the men would go home in disgrace.

Years ago, it became apparent that the river drive method not only left certain woodlands inaccessible, but was doing serious damage to the rivers themselves. At that time, Fraser began a \$5 million program of extending and improving logging roads and, by 1969, for Fraser, river log drives were a thing of the past.

FOREST PROTECTION

Fraser has developed an efficient fire protection system in conjunction with the New Brunswick Department of Natural Resources. Since the early 1920's, Fraser's operating people have been trained and equipped to fight forest fires. Fire patrol planes have replaced the lookout towers on mountain tops and patrol constantly during the summertime fire season; water bombers now support ground crews in

fire fighting but the woods workers are still the heart of the fire suppression effort.

FARMING THE FOREST

Traditional North American practice has been to let the forests grow rather than to grow the forests. The need to produce more fibre per acre from existing lands necessitates a new approach.

In 1977, Fraser embarked on a grow-our-own-forest program, the core of which is a \$1.2 million nursery with the potential of producing 7 million seedlings a year. By planting these seedlings on sites that have been specially prepared, Fraser anticipates doubling its allowable harvest.

These plantations will contain more desirable species which will have fewer defects. When these supertrees mature, they will be more economical to harvest.

Black spruce, for example, is resistant to most insects and diseases. As lumber, it is prized in home construction for its bright color and strength. Pulp made from black spruce is much sought after by papermakers for its long fibre from which a wide range of high quality papers can be manufactured. Therefore, as part of this extensive silviculture program, the Company had set aside stands of prime black spruce from which, in 1976, it collected more than 600 bushels of cones to provide the seeds for the first planting.

Fraser research shows that in a forty-year period, properly managed plantations will produce double the volume of naturally regenerated forests.



PROTECTING THE FOREST

Fraser recognized its responsibility to protect the forest. In 1951, when a spruce budworm infestation threatened to denude the forests, Fraser joined with other companies and the Federal and Provincial governments to form Forest Protection Limited, operator of an aerial spraying program. To date, Fraser has contributed more than \$6 million to this effort. Fraser foresters believe the program has saved the New Brunswick timberlands from near-total devastation.



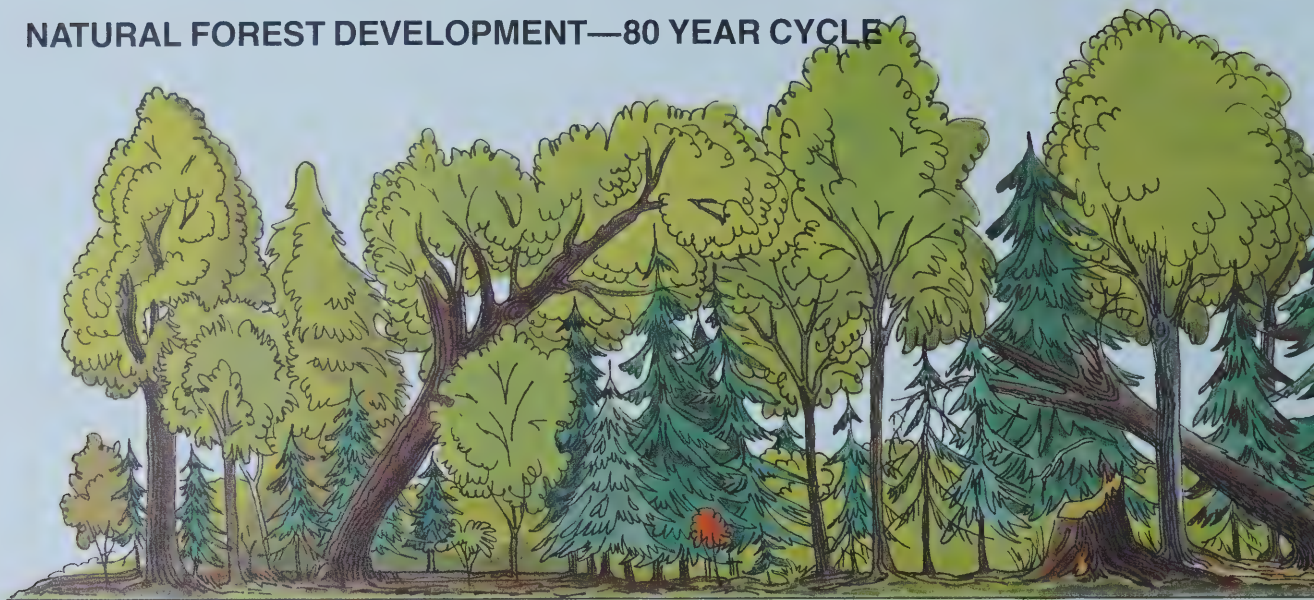
1. Road Maintenance. Since 1969 Fraser has spent more than \$5 million to upgrade its hauling roads at a cost per mile ranging from \$10,000 to \$25,000.
2. Maintenance crews in the woods ensure maximum availability of the costly harvesting equipment.
3. Fraser maintains its own fleet of trucks and tractor trailers to haul logs to its mills, also uses outside contractors.



1. Warping the rapids. This term describes the hauling of provisions through the rapids on the Kedgwick River to supply Fraser's Rapids Depot.
2. Cooking scow was an important ingredient to success of the log drive on the Tobique River in the 1930's.
3. Loggers' appetites are legendary but real. Woodsmen consume huge quantities of foods, including several desserts at each meal.

HOW NATURE GROWS A FOREST

NATURAL FOREST DEVELOPMENT—80 YEAR CYCLE



COMPETITION

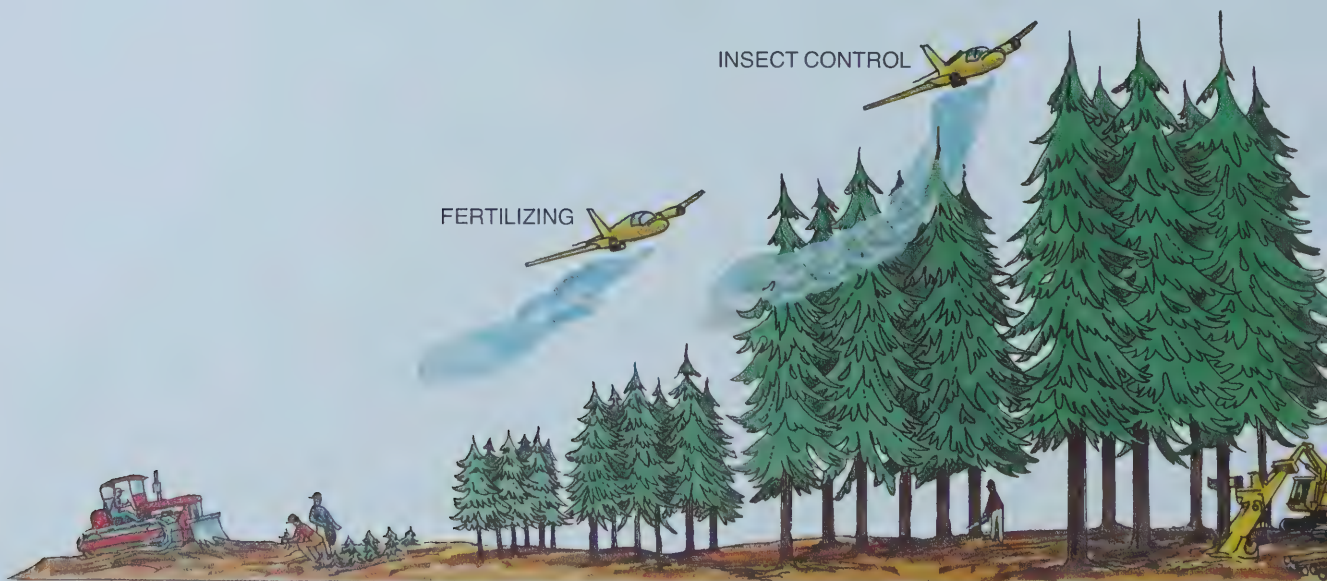
OVERCROWDING

DECAY & DISEASE

20 YEARS

40 YEARS

MANAGED FOREST DEVELOPMENT—40 YEAR ROTATION



INSECT CONTROL

FERTILIZING

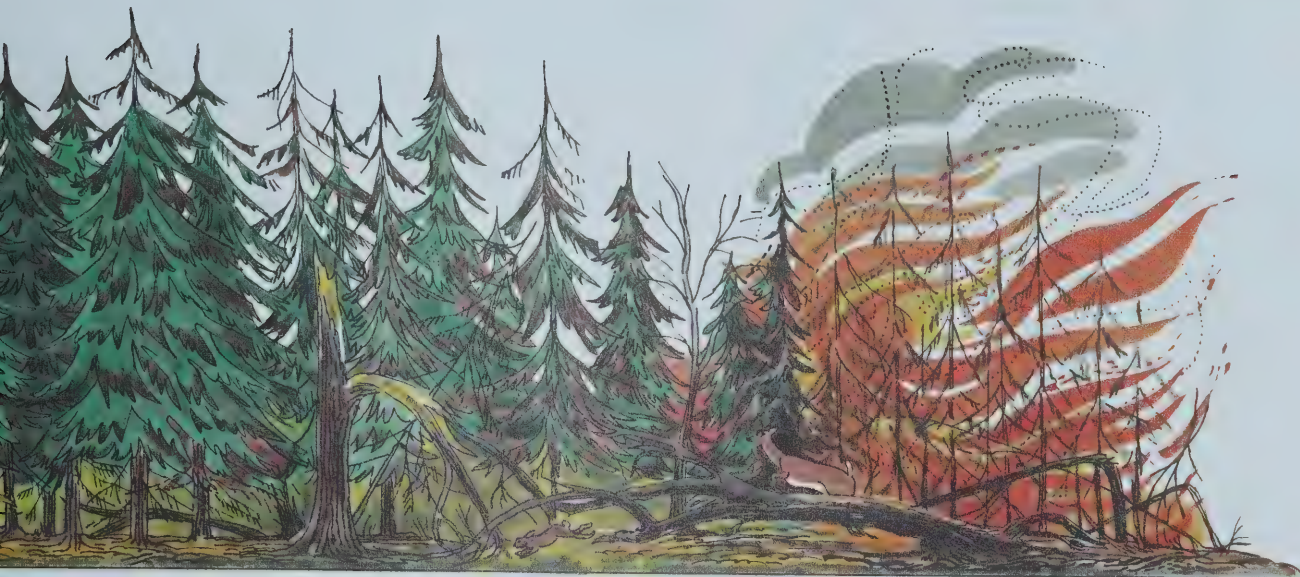
SITE PREPARATION

PLANTING

BRUSH CONTROL

COMMERCIAL THINNING

HARVEST



INSECT INFESTATION

FIRE



HOW FRASER WILL GROW BETTER FORESTS

Natural regeneration has proven to be inadequate in providing the wood needed for the growing demand for forest products. Through its "grow-our-own forest" program, Fraser can grow a managed forest to maturity for harvesting in forty years, compared to a natural seedling-to-harvesting cycle of eighty.

The nucleus of this program is Fraser's \$1.2 million tree nursery which can grow more than 7 million superior seedlings a year. These seedlings produce black spruce trees which grow faster, taller and straighter than trees in the wild and are highly resistant to insect infestation.

Advantages of the "grow-our-own forest" program include:

1. a new stand can be established immediately after harvesting instead of waiting twelve years, resulting in shorter rotation.
2. The new plantation is stocked with trees matched to the growth potential of the site.
3. The fastest growing species are planted to assure highest volume production. The rate of growth is at least tripled.
4. The high cost of transportation is avoided by growing trees on land closer to the mills.
5. Even age stands planted in rows facilitate efficient, mechanical harvesting.



FRASER WOODPULP

In 1914, Donald Fraser and his associates foresaw both a long-term decline in lumber markets and a growth in world demand for pulp.

Canadian production of woodpulp in 1914 was 934,700 tons and had almost tripled since 1908. The U.S. pulp market was particularly attractive. In 1914, a U.S. population of 99 million was using paper at a per capita rate of 108 lb, almost 35 lb more per person than the population of 82 million in 1908. U.S. pulp imports increased accordingly, climbing from 179,324 tons in 1904 to more than 675,564 tons in 1914.

EDMUNDSTON—first venture

Fraser accordingly decided to build a \$4 million sulphite pulp mill at Edmundston with a designed capacity of 120 tons a day of bleached sulphite. At startup, in 1918, it was the most advanced mill in the industry.

Edmundston was a good choice. It was the center of an excellent labour market.

The mill was positioned above the confluence of the Madawaska and St. John Rivers. Power was available at low cost from a nearby 2,000 horsepower hydroelectric plant, and an auxiliary plant which burned waste from nearby sawmills. Pulpwood could easily be delivered to the mill either by river drives or short rail hauls. Edmundston was a major rail center served by Canadian National, Canadian Pacific and the Temiscouata.

The G. H. Mead Company (now, The Mead Corporation) provided engineering assistance in the design of the mill, and marketed the pulp in the U.S. and Europe once the mill was operating.

By 1920, two new digesters were added at Edmundston bringing capacity to 150 tons daily; in 1928, capacity climbed to 220 tons a day and ultimately to a total capacity of 500 tons per day of bleached sulphite.

Also in 1928, to provide pulp for the expansion of Fraser Paper into groundwood papers, a new 150 tons-a-day groundwood pulp mill was built at Edmundston.

There were advantages to Edmundston's proximity to the Canadian-U.S. border and to the town of Madawaska, Maine and they became apparent when the Company decided to manufacture paper. A great demand for paper in the U.S. was continuing and while Canadian paper faced high tariffs coming into the U.S., Canadian pulp flowed duty free.

RESTIGOUCHE

The continued growth of the pulp markets—domestic, U.S. and European—encouraged Fraser in 1930 to expand pulp manufacturing with a \$2.5 million, 45,000 ton-a-year sulphite pulp mill at Atholville on the Restigouche River.

Starting with paper pulps, the Restigouche mill later expanded into the production of dissolving pulps for rayon and cellophane (phased out in 1957). The mill was designed as a market pulp mill to serve the needs of papermakers on this continent and overseas and thus did not have the dependable outlet which Edmundston had in the Madawaska paper mill. As a result, over the years, the mill's level of operations suffered in response to market demand fluctuations.

NEWCASTLE

In 1946, Fraser launched a new \$4 million, 120 ton-a-day unbleached sulphate market pulp mill at Newcastle, N.B. The mill was also designed to further strengthen the Edmundston pulp mill's ability to blend pulps for the Madawaska paper mill.

Initially, a portion of the mill's unbleached pulp was shipped to the Edmundston pulp mill where a new bleach plant was built specifically to bleach Newcastle pulp. In 1962, Fraser invested more than \$24 million to expand the Newcastle pulp mill capacity to 500 tons a day and to add a bleach plant.

The Newcastle mill, including a sawmill at Boisetown, was sold to Boise Cascade in 1970.



The Edmundston pulp mill as it looked in the 1950's.



1. New groundwood mill at Edmundston was added in 1971 to support expansion of groundwood paper manufacturing at Madawaska.
2. Atholville pulp mill can produce more than 45,000 tons a year of sulphite pulps for world markets.
3. The strategic importance of the Edmundston pulp mill and the Madawaska paper mill to each other is clear from this aerial view. An international pulp life line connects the two mills and provides the Edmundston mill with a steady market for its pulp and gives the Madawaska mill a dependable source of supply.



FRASER WOODPULP

NEW DEVELOPMENTS

Today, Fraser's sulphite pulp mills are in resurgence. In 1975, the Company launched a \$91 million modernization program of the Edmundston pulp mill designed to make the mill more efficient and competitive. The new process, magnesium bisulphite, produces a higher quality sulphite pulp, stronger and brighter than conventional sulphite. Because it increases fibre yield by 4%, the process also provides greater utilization of the forests. Importantly, it can also pulp hardwoods.

The mill becomes even more competitive because the cooking chemicals are recovered and recycled within the mill and the non-fibrous wastes are used as fuel.

The stronger magnesium bisulphite pulp can be blended with the less costly, shorter fibre hardwoods.

This important modernization program includes an increase in capacity from 500 tons a day to 592 tons in the first phase and a further increase to 650 tons—possibly even 750 tons—by the completion of the second phase.



FRASER BOXBOARD

Boxboard is cereal boxes, shirt stuffers, petfood packages, dry food and frozen food packaging, cigarette cartons and all the myriad stiff paperlike enclosures, supports and packaging that protect and help sell packaged products. Recognizing the growing importance of these products, Fraser, in 1926, with typical ingenuity, combined surplus machinery with available new and scrap materials to launch a new product, boxboard.

The international pulp pipeline had just been completed between the Edmundston pulp mill and the Madawaska paper mill. This left two pulp sheeting machines in Edmundston unused. They were converted into a 130-inch wide cylinder boxboard machine. Tailings and screenings, considered a waste material, were recycled into quality pulps to provide a percentage of the furnish.

To fill the demand for improved selling power in packaged consumer products, Fraser upgraded the boxboard machine in 1961 with air-knife and blade coaters. Coating added a white smooth surface for quality printing and pleasing appearance.

Edmundston's ability to integrate groundwood and bleached and unbleached sulphite pulps is unique. This flexibility to combine pulps and coating gave Fraser higher brightness grades plus solid bleached grades of unmatched quality.

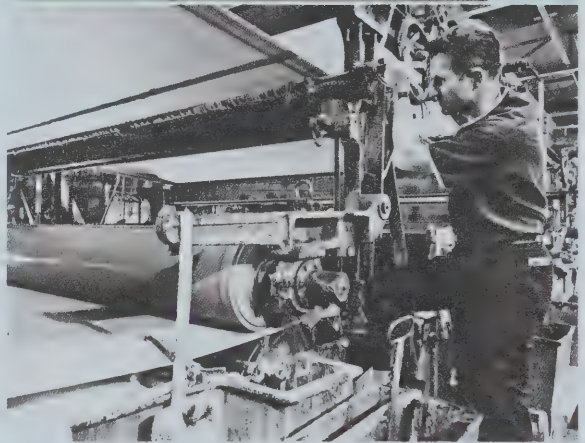
In the 1970's, Fraser achieved significant advances in boxboard marketing. The first step was to Fraliner, a combination of groundwood and unbleached sulphite pulps as a backliner of substantially superior cleanliness and brightness for general packaging. Competitive mills could not match Fraliner because none had Fraser's combination of fibres. This enabled Fraser to move out in front of the food packaging industry and to gain entry into cosmetic packaging, frozen food packaging and fish box stock (in which purity is a key factor).

In 1972, Fraser introduced polyvinyl alcohol as a coating for moisture and oil resistance, opening a new sales area in packaging of cakes, cookies, candies, and penetrating the market for bulk packed dog and cat food. In five years, Fraser increased grease resistance board sales by 4000%. The combination of coating, introduction of surface applications, and use of a high percentage of virgin fibre made this one of the most successful boxboards in Canada.

For the last several years, the Fraser boxboard mill has operated at virtually full capacity due to the high quality of its products, based on the high percentage of virgin fibre in the furnish. At the moment, however, demand for lower-priced grades, with higher percentages of secondary fibre, is on the increase.

This presents no problem. Because of its exceptional flexibility in fibre furnishes, Fraser can economically blend these fibres with secondary fibres to maintain its market superiority.

At Edmundston, Fraser can produce more than 33,000 tons a year of high quality boxboard products on this 130-inch wide cylinder machine.



Machine tender adjusts setting on one of seven cylinder vats on boxboard machine.

FRASER PAPER

Fraser Paper has many things going for it. One is the mile-long pulp life line connecting it to the Edmundston mill which guarantees a dependable and uniform source of supply. Another is its team of papermakers who are so adept at producing lightweight papers that Fraser is a leader in the manufacture of fine and lightweight groundwood papers.

A third advantage is the capable, well-trained sales and sales service organization developed in the twenties which continues today as the guiding philosophy for present management.

Fraser Paper was incorporated on April 16, 1925. At Madawaska, Maine construction of a \$4 million mill started in May and, on October 25, No. 2 machine started making paper, joined by No. 1 machine in November. Capacity was 20,000 tons a year.

America's appetite for paper continued to grow and Fraser grew with it. In February and April of 1928, Fraser installed two additional paper machines at a cost of \$4 million. No. 3 machine was 202 inches wide, No. 4 was 226 inches wide and both were designed to produce bond, offset, register bond, waxing papers and converting grades. Then, in October of the same year, a new mill was built to accommodate No. 5 paper machine, a 226-inch wide unit to produce groundwood catalog papers for Sears, Roebuck & Co., and directory paper for Western Electric.

By January 1930, No. 6, a \$1.5 million, 226-inch wide groundwood catalog machine was added to the new mill which was also connected by pipeline to the Edmundston 120 ton-a-day groundwood pulp mill.

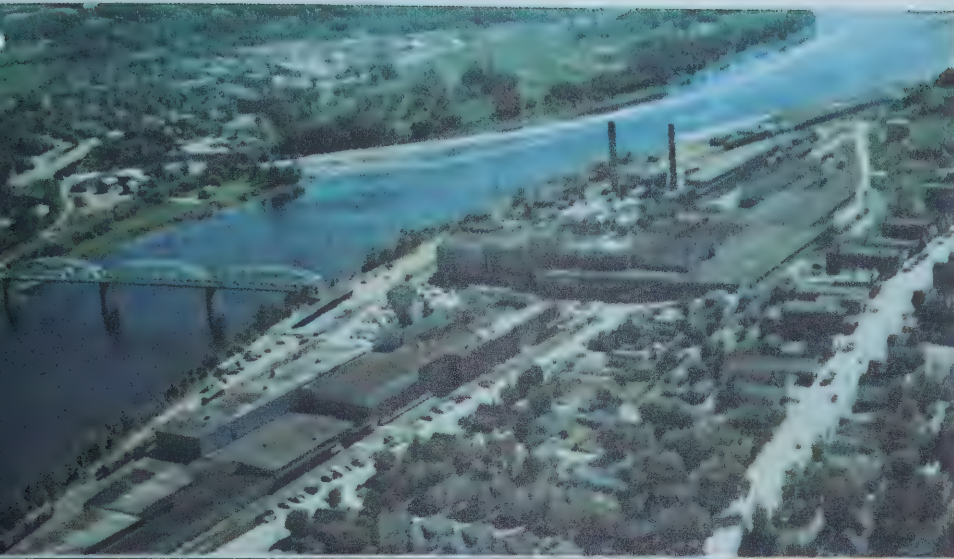
To maintain its lead in waxing and breadwrap papers, Fraser developed and installed the world's first trailing blade coater in 1948. This was a 192-inch wide machine and with it Fraser ushered in a new era in coated paper manufacturing.

The new off-machine blade coater produced a superior breadwrap paper called Fracote and Fraser continued to lead the way in foodwrap papers.

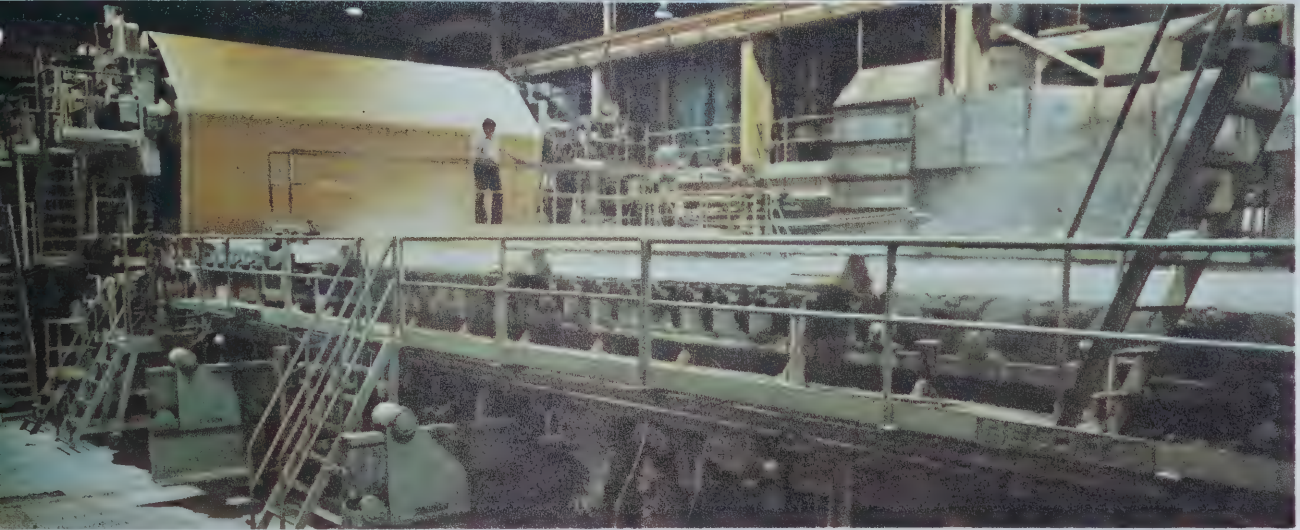
In 1961, No. 7 machine was installed with a capacity of 130 tons a day of fine papers. At startup the new machine was considered one of the industry's most modern machines.

In 1968, Fraser extended the range of its blade coating prowess to coated groundwood specialties. After extensive marketing research, Fraser installed a 212-inch wide off-machine blade coater designed to expand the Company's range into lightweight groundwood specialty papers.





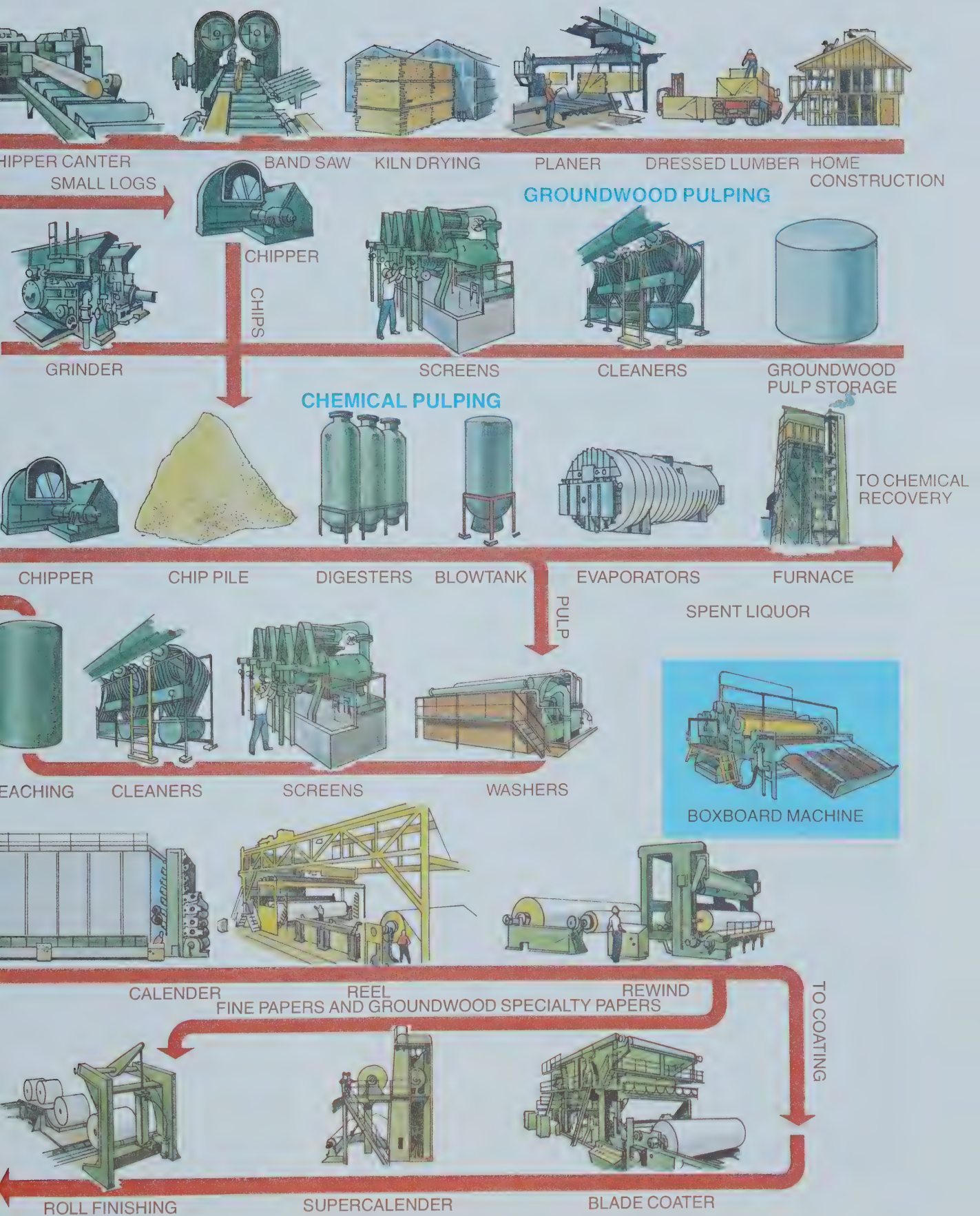
1. Successful splicing technique on off-machine blade coater attests to skills of machine crew.
2. Elaborate and advanced stock preparation system serves five fine paper machines and the No. 8 groundwood paper machine. Magnetic flowmeters accurately proportion each ingredient into the individual paper machine furnish.
3. Fraser paper mill at Madawaska, Maine produces more than 1100 tons a day of fine papers and lightweight groundwood printing papers.
4. Pride of the Madawaska mill is this 306-inch wide groundwood paper machine which can make more than 250 tons a day of lightweight groundwood papers.



1. The original paper mill at Madawaska as it looked in February, 1926.
2. The original two paper machines in January, 1926. At right is No. 1 machine, at left, No. 2.
3. Hand sorting of paper sheets was a tedious job. Today, electronic monitors on the paper machine automatically sense and detect any variations from quality standards.

HOW FRASER MANUFACTURES LUMBER, PULP, PAPER & BOXBOARD





HOW FRASER PRODUCTS ARE USED



Telephone Directories



Home Construction Lumber



Catalogs



Magazines



Packaging Papers



Cotton Swab Sticks



Sugar Pouch Paper



Business Forms Papers



Market Pulp



umber



Food Packaging



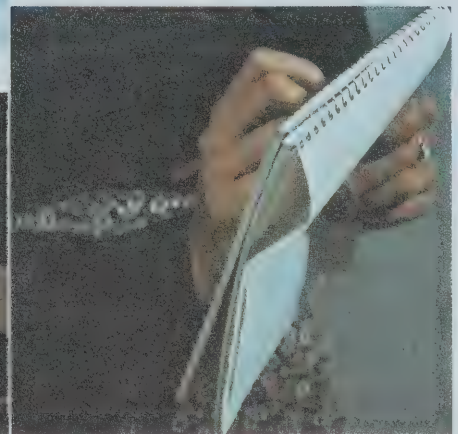
Industrial Packaging



Computer Papers



Office Copy Paper



Notebook Papers



Printing Papers

FRASER TECHNOLOGY

From the day in 1878 when Donald Fraser installed the original Dunbar machine in his little River de Chute sawmill, a high proportion of the Company's funds and energies have been devoted to product and process improvement.

Perhaps, the single most important Fraser innovation was the world's first commercial trailing blade coater which operated in the Madawaska paper mills from 1948 until 1975.

In 1944, Ronald A. Trist, a chemist with an idea for a special chemical formulation for coating paper, called on Fraser, having failed to interest other papermakers in his ideas. His visit was timely. Fraser had acquired the lead position in breadwrap papers, by developing XT Opaque. (XT stood for extra titanium dioxide which increased the opacity.) But now this position was being challenged.

Fraser scientists, under the direction of chief chemist, W. A. "Bill" Ketchen, were not interested in Trist's coating formula. They were very interested, however, in the method which he used to scrape the excess coating colour from the sheet of paper, a trailing doctor blade. After some initial work with Trist, Fraser pursued the idea on its own.

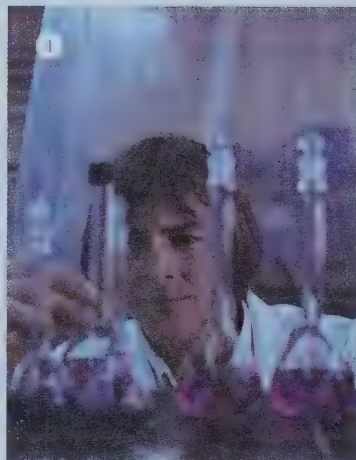
Fraser sparked a coating revolution that would sweep throughout the coating world; the trailing blade coater produced a smoother surface for printing at incredibly higher speeds than any other coating method. By the sixties, the blade coater dominated all other coating methods and still does today.

Other technological milestones include the use of the first plastic Fourdrinier wire on a paper machine and development of the base paper for trading stamps (for many years, up to 95% of all trading stamps were printed on Fraser paper). Fraser was also the first company in Eastern North America to use outside chip storage.

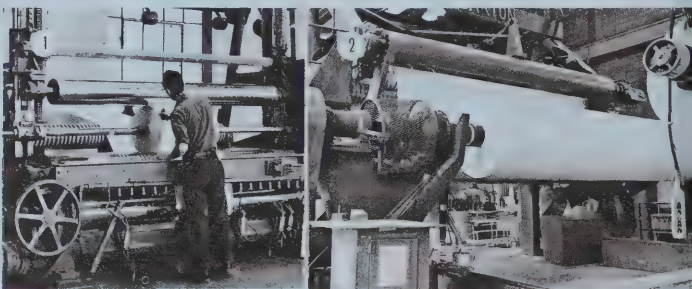
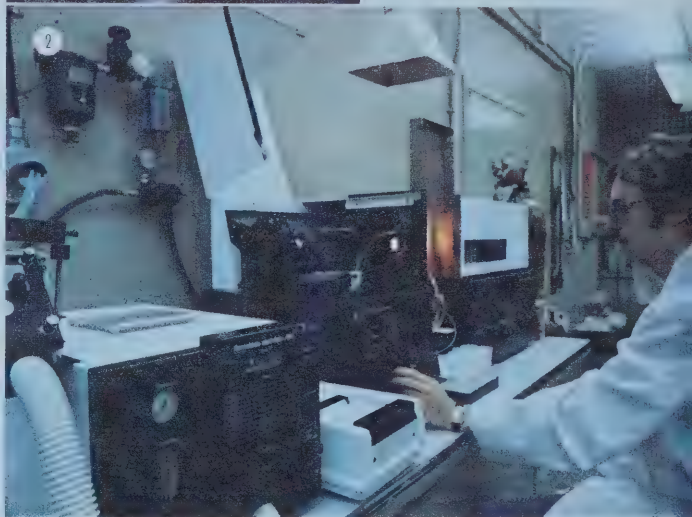
Fraser established its first formal Research and Development Department in the forties at the Atholville mill. Here was laid the groundwork for many Fraser technological advances in use today.

The Atholville laboratory was oriented towards dissolving pulp research, and soon was considered second to none in North America. When the Company later shifted its focus to paper pulps, the laboratory developed an ammonium bisulphite pulping process using softwoods. The softwood bisulphite pulp is used in the Madawaska paper mills as a replacement for softwood kraft.

Since 1968, Fraser's research and development activities have been consolidated in the Central Research Department at Edmundston.



1. Technician in the Fraser Central Research Laboratory compares solutions.
2. Advanced technology tool, spectrophotometer.



1.—2. This small rewinder made world coating history. In development work on the trailing blade coater Fraser converted this rewinder into a pilot coater. The trials were so successful that the company designed a full-size commercial unit (right) to produce Fracote a superior breadwrap grade of coated paper.

3. Early testing laboratory at Madawaska.



ENVIRONMENT AND ENERGY

Fraser's concern for the environment predates public concern and legislation. Company executives have always lived in the mill communities, so they have been acutely sensitive to the environment and aware of the need to protect it.

Today, Fraser executives are proud of their achievements in environmental protection. Here are some of them.

1. As soon as they became aware that river drives adversely affected the environment, the Company launched a multi-million dollar program of hauling road construction to permit a changeover to truck transportation and, by 1969, river drives had been phased out. The effect was immediate. The Madawaska River is now fishable and swimmable.

Happily, there were economic rewards as well. It was discovered that losses from sinkings had been greater than supposed. Elimination of these losses, plus the improved roads, made truck transportation actually less costly than the river drives.

2. When the Company built the Newcastle kraft pulp mill on the Miramichi River, it studied the effect of kraft pulp mill effluent on salmon. To protect the salmon, Fraser scientists developed a process which won the coveted Weldon Award when a paper on this process was presented at an annual meeting of the Canadian Pulp and Paper Association. Other Company studies on fish toxicity have been published in many scientific journals.

3. Primary and secondary treatment facilities were installed at the Edmundston pulp mill in 1971. These included a 150-ft. diameter clarifier and a 90 million gallon aerated lagoon.

4. Water reduction programs were undertaken at the Edmundston and Madawaska mills. At Edmundston, the program is directed at reducing daily freshwater use from 40 million gallons a day to less than 20 million gallons. At Madawaska, an intensive search-and-serve program has already cut water use from 27 million gallons a day to 16 million. Work continues to further reduce usage. These programs bring additional economic benefits: fibre losses are minimized and energy is conserved because less heat is discharged.

5. Two clarifiers installed in 1976 at Madawaska have reduced suspended solids in effluent discharge to a level that is 60-80% below the allowable level.

6. As much as 65% of the \$91 million costs of the Edmundston pulp mill modernization are for environmental protection.

7. In 1976, the Edmundston pulp mill was 100% dependent on outside energy. In 1977, a new refuse boiler reduced oil consumption by 15%. In addition, a new recovery boiler is designed

ultimately to increase the mill's self-sufficiency in energy to 55%. This means that 55% of the mill's energy will be supplied by the recovery and burning of waste pulping liquor as well as bark and other refuse at a considerable saving in operating costs.



Environmental Protection at Edmundston:
1. New refuse boiler has reduced mill's oil dependency by 15%. Shown is bark preparation system.
2. Primary clarifier serves mill.
3. Ninety-million gallon aerated lagoon.





Fraser Voyageur In the 1930's, Fraser incorporated the figure of the Voyageur into its trademark and has retained that symbol in subsequent designs.

The Voyageur was a pioneer. If there was a frontier to be probed, a new path to be explored, the Voyageur was the first to do it. He helped open this vast continent so that others could more easily follow and build for the future. He led the way.

As we step into a second century of operations, we bring forth a new logo style. We, like our Voyageur, look ahead to unexplored frontiers in the world of forest products and are striving to lead the way.

Fraser growth from here looks exciting. The company is in a strong financial position and has embarked on unprecedented modernization, improvement, and expansion programs.

In 100 years, Fraser has progressed from the primitive sawmills to the computerized paper machines of today. The changes during the next 100 years may be even more dramatic. Fraser people are ready to accept the challenge.

OFFICES, PLANTS & PRODUCTS

FRASER LUMBER

Mills:

Plaster Rock, New Brunswick
Kedgwick, New Brunswick

Product:

Eastern Canadian Spruce

Sales Office:

Edmundston, New Brunswick
E3V 1S9

FRASER PAPER

Mills:

Fraser Paper, Limited
Madawaska, Maine

Products:

Fine and Writing Papers
Groundwood Printing Papers

Sales Offices:

2 Greenwich Plaza,
Greenwich, Conn. 06830
2300 East Devon Avenue,
Des Plaines, Illinois 60018

FRASER PULP

Mills:

Atholville and Edmundston,
New Brunswick

Products:

Bleached and unbleached
softwood sulphite, and
groundwood

Sales Offices:

Edmundston, New Brunswick
E3V 1S9
1155 Dorchester Blvd. West,
Montreal, Quebec H3B 3T6

FRASER BOXBOARD

Mill:

Edmundston, New Brunswick

Products:

Coated and uncoated folding
boxboard

Sales Offices:

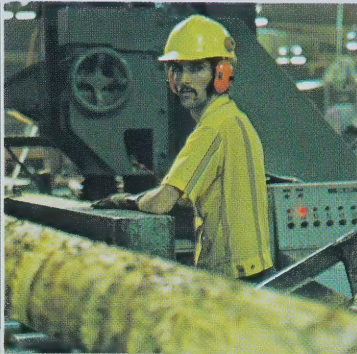
1155 Dorchester Blvd. West,
Montreal, Quebec H3B 3T6
600 The East Mall,
Islington, Ontario M9B 4B1



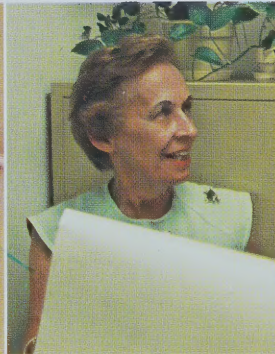
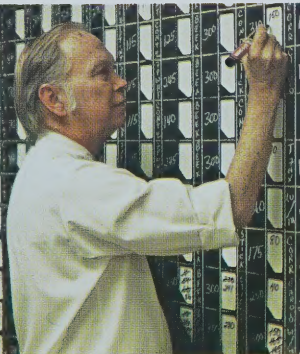
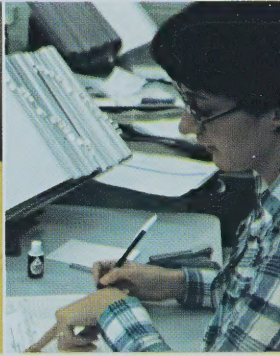
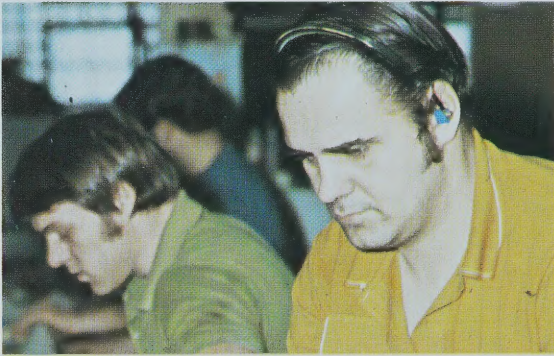
o mill



wmills



Madawaska



Greenwich





A second century of growth begins...